Access to Microfinance & Improved Implementation of Policy Reform
(AMIR Program)

Funded By U.S. Agency for International Development

University Alliance

Draft Report

Deliverable for Policy Component
Task No. 4.6.14
Contract No. 278-C-00-98-00029-00

August 2000

This report was prepared by Roy Butcher, in collaboration with Jordan U.S. Business Partnership on behalf of Chemonics International Inc., prime contractor to the U.S. Agency for International Development for the AMIR Program in Jordan.

Human Resources Development: University-Industry Alliance

Background

Analyses of Jordan's IT services sector identify the difficulties within Higher Education in keeping up with the rapid pace of development and innovation in IT and IT application. This challenge is not specific to Jordan, it is experienced by the majority of countries. Maintaining the currency and relevance of graduate education in IT requires massive injections of Government funding and sizable donations from major IT suppliers. These are not available in Jordan.

Analyses clearly identify many HR qualities available in Jordan which, supported by commitment to a relevant strategy, form a basis upon which commercial IT activity and academic development may be achieved. Success will depend upon the lead given by the private sector and its investment, together with donations and sponsorship from outside of the country.

Further to the REACH 2.0 presentation and workshop, this report identifies opportunities for private sector involvement in training and education in its widest perspective. The report is not restricted solely to university-industry alliance. Given the limited investment resources available, the report argues that attention should be given to arrangements, frameworks and models from other countries which have demonstrated a successful record in such alliances. Models have been selected which make efficient use of resources and which have been shown to maximize return on investment. These can be tailored to meet local needs and opportunities. Time does not permit Jordan to go through the long learning curve in industry-academic collaboration experienced by other countries.

Four areas of opportunity are identified. I can provide information which gives more detail on some of the frameworks and implementations supporting activities and actions recommended in this report. Some of the actions may have already been carried out.

Two underlying factors will seriously obstruct progress in the aspects of HRD identified below. These are:

Lack of project champions from the institutes of Higher Education and Learning
Poor internet access and performance

An important factor in determining the changes to be made to education and training is the export market for Jordan's IT services. Services which may be provided to organizations outside the country include systems and software design, software development, IT infrastructure operations and support, the many different forms of outsourcing and facilities management, training and consultancy. Such opportunities have been the subject of a number of studies. These studies commonly identify the importance of the following:

Evidence of an effective partnership between private sector, education and Government with the private sector taking the lead

Assessments of the quality and capability of Jordan's IT sector which focus on the level of expertise in project management, the application of development methodologies (to achieve effective planning, continuous process improvement and repeatability) and formal quality assurance procedures

Certification of achievement at all levels of education and training

Currency and relevance of university teaching which is delivered within a flexible and adaptable curriculum framework.

Mission – 1
The provision of cost-effective and relevant training at sub-degree level to meet the (immediate) needs of Jordan's Information Technology Services sector.

I have argued for the distinction of vocational, product specific (e.g. IT application, programming language, development tool etc...) 'training' from university undergraduate education. This, I believe, will remove possible ambiguity and misunderstanding when seeking forms of 'accreditation', will enable more focused statement of requirement for HR from industry and will help university faculty when discussing the aims, objectives and outcomes of university degrees.

University education is concerned with developing technical, professional and personal skills, and in particular, the intellectual capability of the individual. The importance of 'soft', 'transferable' skills necessary for graduates to operate successfully in the workplace and at the customer/client interface is often stressed. This does not, however, prevent or obstruct university students from taking 'professional vocational' exams e.g. MCSE at the same time as their degree nor prevent universities offering professional training as a form of income generation using their facilities. However, I recommend that if a university delivers this type of training, it should be a distinct part of its business plan.

A valid point made at the post-meeting concerned the need to identify the training requirements for a wider spectrum of disciplines outside of IT (e.g. management training, professional skills training, project management, HR management, IT support, marketing, business entrepreneurship etc..).

'Training' will be required for the following categories of individual:

To increase depth of skills of IT graduates (advanced training)
To convert unemployed non-IT graduates into IT (conversion training)
Focused training for business experienced, non-graduates
Introductory training for school leavers, new entrants to employment
IT literacy training for the unemployed
IT training for special groups e.g. women via the WYCA
Training of 'middle management' in IT basics, exploitation & capability.

Evidence suggests that there are insufficient qualified and experienced trainers in Jordan to deliver this training in significant volume. A solution maybe to create a training center for 'training the trainers'. Such a center could also take responsibility for identifying appropriate materials, technology support, delivery methods, accreditation issues etc… Curriculum and materials are available, if not in Jordan, then from Europe or the U.S.

The need for such a center is urgent.

Further training centers (of excellence?) need to be established to deliver training in areas identified by the needs analysis.

Issues:

A training strategy identifying commonality e.g. of requirement, background, materials, delivery methods etc.. across the above classifications will lead to efficiency gains and improved process and standards. There is opportunity for collaboration in the purchase and/or development of training materials and in the dissemination of 'best practice' (I'm sure this already happens). Through a planned strategy, Jordan is in an excellent position to avoid many of the expensive and resource consuming tasks concerned with the acquisition, organization, support, documentation, standardization, version control, license management, danger of provision of out-of-date or irrelevant training, etc… which has been experienced in many other countries.

Until such time as telecommunications infrastructure is available capable of providing the bandwidth for the Internet, computer-based training (CBT) material may be an appropriate method (and for outlying areas not well served by telecomms).

Where training is undertaken at an academic institution, suppliers of software etc.. will often provide a license which allows the software to be used by the student at home, providing the student is correctly/formally registered with the institution. Academic institutions have successfully negotiated software purchase at low price (compared to the commercial rate). Some countries have achieved additional savings by setting up a 'central academic purchasing unit' to negotiate on behalf of all Higher Education institutions (e.g. the CHEST partnership in the UK).

'Tests' are advisable to determine both the potential trainee's current level of expertise and aptitude (these are available and can be adapted to local needs) – and student progress should be measured and recorded. As an example, the European Professional Computer Associations now provide a Continuing Professional Development Logbook to each member in which their qualifications, training and experience is recorded and validated. The member maintains this logbook and presents it when applying for employment thus verifying the applicant's credentials. (The British Computer Society has produced an 'Industry Standard Model' for IT which lists every IT related job, the tasks, qualifications and experience which the position holder should possess – further information at http://www.bcs.org.uk). The European Informatics Skills Structure Model is described at http://www.online.nf.ca/people/).

Tasks:

A comprehensive skills needs analysis & report on areas where training is required together with priorities – type, level, demand, generic skills/specific products/tools/techniques (has this has been done?)

An audit & register of sources of current training in Jordan – who, where, capability, capacity, charges – Higher Education needs to determine its capability in this area – does it have the HR & Labs?

Determine a curriculum for trainer training (available from UK/USA)

Develop strategy, objectives and implementation plan for a 'training the trainer' capability
(How is the availability of this training to be advertised)?

Development of appropriate aptitude tests

Determine which level of accreditation standards are appropriate (if any)

Develop training resourcing & delivery plan in response to skills need and current capability audit

This needs urgent action. Who will lead this? It should be industry thru (INT@J)?

Mission - 2
a) To invest in and retain top IT graduates to support the development of Jordan's IT Services sector.

b) The effective development of university faculty.

University curricula issues are discussed under Mission 3 below.

The following factors may be considered to influence graduate employment and retention:

Salary (starting & progression) & other forms of financial reward
Perception of 'quality' of the employer
Career development opportunities
Perception of the employer as an investor in people
Graduate awareness of employment market and IT sector
Perceived alignment with graduate's expectations
Nature, frequency and quality of training offered whilst in job
Judgment as to whether the graduate will be 'valued'.

The following scheme describes the role of industry-based collaborative projects between university and local companies and meets the above needs of the graduate and also the aim of point b). The nature of the scheme provides for close and continuing alliance between industry and academia, puts the development of the student at the center of a focused project (a clear intention to invest in the student may encourage top graduates to remain in the country), utilizes the expertise and resources of both partners in an efficient manner and seeks to maximize dissemination of the benefits arising from the work undertaken.

Aims of Collaborative Programs

- To enable companies to make strategic business advances through projects which would otherwise be beyond their resources of knowledge and skilled manpower.

- To assist the development of able graduates into future industrial leaders by providing high profile training in industry with academic support.

- To enable the university to develop its staff and improve the quality and relevance of research and teaching by applying their knowledge to exacting industrial projects.

- To enable companies to draw upon and benefit from, the expertise of the university in the fields of computer science, the application and exploitation of IT, electronics and electrical engineering.

- To enable graduates of the university to be involved in 'business-critical' innovative industry-based projects thus maximizing the use of their skills and providing a platform for the further development of their theoretical knowledge and application skills.

- To enable graduates to further develop and refine their personal and professional skills whilst still receiving the support and guidance of university academic staff.

- To enable academic staff to experience development through the supervision of such projects which may lead to academic publications and conference presentations.

- To provide examples of best practice in project management.

Utilizing the university to co-ordinate these projects will provide opportunities for the dissemination of best practice, knowledge and skills.

Typical aims for the companies within such a partnership - include:

- Introducing new or improved products, services and processes.
- Introducing or improving systems.
- Entering new markets or improving penetration of existing ones.

Project Organization

A central body comprising a project champion from each alliance party should set standards for the planning and management of these projects thus enabling the scheme to be operated consistently throughout Jordan. This body should approve each project.

The university partner should be responsible for determining the nature of the work to be undertaken, for writing the project proposal and for the administration & management of the project. The proposal will clearly identify the nature of the work, project objectives, outcomes, contribution to the company and university, and the expected benefits to the graduate.

Projects should normally be for two years, supporting the employment of one or more able graduates who work full-time in the company partner on projects designed to realise the advances sought by the organization. Funding (in addition to that provided by the company partner) would need to be sought from sponsors, donors, Government, agencies outside Jordan (which support academic or commercial innovation, r & d etc…), to cover the following costs:

Graduate salary & employment costs
University faculty
University administration
Graduate training & development
Equipment, software to support the project
Other project expenses – travel, subsistence etc…

The graduate would be supervised jointly by senior company personnel and a faculty member. In addition to practical learning, the graduate will receive formal training aimed at developing both technical and managerial skills. The graduate may wish (should be encouraged) to register for a higher degree during the project.

Project Management

Whilst the project is in progress, the graduate, academic supervisor and company supervisor meet on a regular basis, perhaps once each week.

There should be a quarterly meetings attended by a senior member of both the university and the company as well as all other stakeholders. Progress against objectives should be monitored and new objectives set. These meetings should also update the project plan, report expenditure against budget and determine resource needs for the following period. A formal and confidential report would be produced analyzing project success.

Although this structure may appear complex, this does not imply bureaucracy. Having a standard quality assured & centrally monitored framework ensures that the benefits and experiences from the projects are more widely and usefully disseminated and become very effective input to the faculty for student, staff and curriculum development.

Some countries report difficulty in realising the benefits of university-industry alliances. This is often caused by the independence and remoteness of the project work from the base of learning and there being no effective national and international forum for reporting the work achieved. In the absence of central monitoring, it is impossible to assess the general standard of achievement of such alliances, whether value is being returned for the investment made or the quality of feedback into curricula design.

Work experience attachments for undergraduates.
It has been suggested that the current short periods of work in industry which are provided during the summer academic recess be extended. Issues raised by this are as follows:

There is little to be gained by placing students in work situations if they are not allocated
challenging, appropriate and meaningful tasks.

Industry is unlikely to be able to accommodate large numbers of students seeking attachment at the same time of year. Flexibility of course design is required to smooth demand on the supply of places through the year.

The minimum period of time for such an attachment should be 6 months.

University curricula should be designed to prepare students for these attachments by providing in addition to the required technical IT skills, knowledge of the workplace and the personal, organizational & professional skills.

Faculty need to ensure that students are made aware of the nature, expectations and responsibilities of the attachment.

The student should be made responsible for analyzing and recording the technical and professional benefits and development achieved from the attachment.

The development of the student's personal skills (accountability, analysis, critical thinking, decision-making, communication, etc..) should be considered more important than that of technical skill development.

If students are to receive reward for the period of work, attempts should be made to achieve consistency and parity across employers.

Universities may wish to consider whether the performance of the student during the period of employment should be formally assessed.

Actions: Collaborative projects.

Decide a 'model' for the support of such programmes of work. The model will provide the HR framework, the processes for funding, stakeholder commitment, IPR, project definition, management, monitoring and reporting.

Actions: Student work attachments (interns).

Examine curricula implications.
Determine number of students (demand) in the sector
Determine provision from industry (supply)
Determine priority system should demand exceed supply
Establish process for creating demand, allocating students, managing and reporting the attachment.

Postgraduate provision – graduate and business schools

This level of provision has proved more attractive to commercial sponsors (e.g. SAP, ORACLE, etc…) than undergraduate courses. Graduate school programmes are more professionally focused, relevant to industry need and attended by students who have already proved capable. This is also an opportunity to develop innovative or 'hybrid' programmes (e.g. hybrid of IT and Management to produce people who can cross the barrier between IT and industry for the purposes of designing IS/IT strategy, marketing, exploitation of IT, etc…) which may be studied in intensive mode thus bringing the graduates rapidly to market. Academic study can be integrated with high-level product specific training which will offer successful students certification. E.g. ORACLE Certified Professional, SAP or Cisco Accreditation. Such companies may donate software, equipment, teaching materials, texts – and even offer to contribute to curricula design and teaching.

Private sector representation is critical on curricular design, course monitoring and course review. For monitoring, sector involvement comprises overseeing the quality and process of delivery and advising on necessary standards needed to ensure acceptance of the graduates by employers. Sector representatives may also ensure the process of course review - that all stakeholders' views are sought, discussed and the outcomes documented.

I have not examined postgraduate provision in Jordan in any detail.

Mission - 3
The development and delivery of university curricula which meet the needs of Jordan's prime IT sector and satisfies USA Computing Sciences Accreditation Board (CSAB) & European Computer Association (ECA) accreditation standards.

Teaching, Learning and Assessment (TLA).

Evidence confirms improvement in academic quality when the three components of Teaching, Learning and Assessment are given separate consideration and then delivered via an integrated strategy. The strategy cannot and indeed should not be the same for every university. Through the development of different strategies, universities may provide variety, distinctiveness and an ability to address differing market needs e.g. a teaching strategy for a university in a city center will not correspond to that of a remote 'community' institution. However, assessment criteria may be standard as decided by the Ministry or other stakeholder.

Teaching strategy is concerned with determining the role of faculty and the demands put on them, the style of delivery of the curriculum (which may vary between units of study), the links between research and teaching, how the chosen method of teaching achieves the objectives and learning outcomes of the units of study, and hence the overall programm. A key aim here is too make most effective use of faculty resource. The curriculum must be adaptive so as to respond to advances in the subject domain, teaching technology developments and industry needs.

Learning is concerned with decisions relating to the role of the student and the demands put on them. It also seeks to determine and communicate the rights and responsibilities of the student and attempts to set standards which the student may expect by the institution e.g. access to and performance of equipment, the internet, library facilities etc.. The strategy aims to encourage the student to become more of a 'self independent' learner, to achieve maximum use by the student of appropriate technology and to achieve the required standard of learning in the most economical manner. Increasingly, such strategies determine how distance learning will be delivered.

Assessment determines the use of different mechanisms to determine and communicate the progress of the student and to ensure that such mechanisms are appropriate to the unit of study. The results of assessment are visible and usually a critical determinant in employment decisions. The strategy must enjoy the confidence of all stakeholders and is therefore an important opportunity for industry involvement. It is important that the mechanisms for assessment accurately distinguish performance and that an attempt is made to achieve standards of assessment that are consistent across all universities.

Educational research, training of faculty, innovation by faculty, experimentation, financial support for pilot studies and prototypes are all required to produce the knowledge and skills by which the above strategies can be developed. Again, experience clearly shows that effective, rapid and well communicated dissemination of success, failure, best practice etc... across the sector is key to avoiding the waste of resource.

A TLA strategy is mandatory for successful academic accreditation by European and USA accreditation authorities.

Whilst the development of TLA strategy should be led by faculty, private sector representation on committees and groups debating and deciding university/faculty/department TLA policy is critical.

Actions:

Suitable faculty should be identified and time given for them to carry out research & enquiry into publications of educational research in TLA within Europe and the USA.

Every university should have an industry-academic advisory committee with terms of reference which enable private sector involvement in curricula design, in the delivery of the curricula and in monitoring and review.

It is important that such representatives have contact with students. The role of the Jordan Computer Society on such a committee should also be considered. There is evidence that employers are seeking graduates with greater specialization, although still possessing the professional skills to be able to operate effectively in the workplace and at the supplier/client interface.
Advisory committees may contribute to discussion on whether, for some universities, offering degrees in e.g. Software Engineering, Business Information Systems, E-business, Networking & Communication, Multi-media Computing, Visualization, Knowledge Management, Computer Engineering etc.. may be more relevant that Computer Science. The committee may also debate appropriate course structures in terms of mandatory and optional units of study, and the need for introductory and advanced units. Members of an advisory committee should be prepared to serve for a period of not less than 3 years.

Wherever possible, departments should be given delegated authority to update and amend the curriculum. The advisory committee may recommend and oversee a framework within which such delegation may occur.

The development of faculty is critical in providing quality education to students. There should be a structured, planned development programme for faculty, which aligns with the TLA strategy (and the department research strategy if present). The university advisory committee may wish to assist the planning and deployment of resources needed to support faculty development and scholarly activities. They may also advise on how the use of these university resources should be monitored and evaluated.

Industrial representatives can also add value to teaching and learning. Faculty must ensure that external speakers are prepared with prior knowledge of the level and capabilities of the students. Industrialists making regular contributions must have suitable presentation skills. They are contributing valuable real-world experience and current awareness, and hence do not need specific academic credentials to participate in the teaching of the university.

Appropriate faculty and industry representatives should be attached to a university in the USA or Europe which has established a record of excellence in its development of TLA strategies and in the implementation of those strategies.

Academic Quality Assurance.

Standards and targets for quality covering a range of academic activity are important for the following reasons:

To determine and measure improvement within the university over time
To create confidence in the external stakeholders (potential students [from outside Jordan?], employers, Government)
To identify where investment or change is necessary
To compare achievement across universities
To determine compliance with (international) accreditation standards
For comparison with other universities outside Jordan
To demonstrate compliance with legislation.

Many different approaches and systems have been tried. Ideally, the determination of quality achievement should be undertaken in a non-confrontational, supportive, developmental and positive manner, such that stakeholders (particularly faculty and students) are encouraged and not subject to additional demands and/or pressures. However, where there is significant failure to achieve standards, action must be taken – probably at Governmental level. The standards should be in the public domain and actual achievement by type of activity and university should be measured on a regular basis and the results also placed in the public domain.

Peer assessment of quality has been proven successful. Government approved and qualified faculty from universities considered ‘centers of excellence’ in the subject domain carry out the assessment according to guidelines agreed with and enforced by the Ministry.

Whilst decisions relating to planning and delivery of TLA provide an excellent opportunity for private sector involvement, it is debatable whether the involvement of industry benefits quality assurance.

Distance Learning.

One of the most fundamental developments in education and training, Jordan cannot ignore the possibilities and potential of applying new technology to facilitate HRD at all levels by undertaking some learning remote from the institution.

Experiences in many countries suggest that an un-coordinated implementation of new learning technologies leads to delay in benefit realization, ambiguous standards and confusing terminology and provision.

Legislation

The provision of education is in accordance with Government legislation at national and university level. A document clarifying this legislation and determining whether variation exists between institutions would be useful. Changes suggested in this document affect Legislation in the following areas:

Appointment & promotion of faculty
Curriculum design and delivery
Academic commercial activity, consultancy and university-industry collaboration
Quality assurance and performance
Provision of distance learning.

Mission - 4
The exploitation of IT to provide high-quality learning programmes made accessible to everyone, at times and in locations to fit their lifestyles.

This is clearly a long-term goal and one which, for any country, requires fundamental changes in social values and the perception of the role and importance of education. The premise is that whilst in the short-term, Jordan's IT activity will be driven by companies within its prime services sector, the country's position as an IT-enabled nation will be perceived more positively if there is evidence of IT literacy at all levels in its society. Such a change in philosophy may be an opportunity for including the concept of 'lifelong' learning to address the skills needs of those driving the Jordanian economy and to respond to the rate of change in technology and management techniques.

Such a programme, often launched on a very small scale, has been shown to deliver the following benefits:

to help people of low academic attainment to advance in their learning

to enhance employment opportunities

to enable an understanding of the value of information, information management and information processing within the workplace

to develop the skills-base of the country's workforce

to enable business and industry to develop and make more effective use of knowledge workers

to help both people and organisations to identify and meet their learning needs.

A partnership between education, Government, the private sector, voluntary organizations, donors and sponsors should examine how the new technologies being implemented in Jordan may be employed to support new ways of learning for those both inside and outside the active workforce.

It may also determine those sectors of industry where there are skills needs now, where there will be increasing demand in the future, or where sectors presently have low levels of training activity.

A strategy will be required which addresses the priority learning areas, delivery mechanisms (particularly for remote and distance learners), awareness campaigns, promotion, support facilities, educational access & guidance, resource allocation, quality assurance, role of the partners, student enrolment & monitoring.

Revision of the Laws of the Hashemite Kingdom of Jordan Bearing on Education and Universities

Based on the Workshop of University - Industry Alliance, Mr. Roy Butcher asked for a revision of the Laws of the Hashemite Kingdom of Jordan bearing on education and universities; and to give answers for the following:

- E education.
- Possibility of universities to participate in the private sector and vice versa.
- Possibility of having an advisory board to reflect the needs of the IT sector.
- Degrees of professors at the universities.

Our legal research was based on studying the following:

- Higher Education Law No. 6 for the year 1998.
- Universities of Jordan Law No. 29 for the year 1987 and its amendments.
- Private Universities Law No. 26 for the year 1999.
- Jordan University Law No. 52 for the year 1972 and its amendments.
- Yarmouk University Law No. 25 for the year 1995.
- Alhashemiah University Law No. 18 for the year 1992 and its amendments.
- Al- albeit University Law No. 17 for the year 1997.
- Mu'ta University Law No. 56 for the year 1975.
- Al- Hussein Bin Talal University Law No. 21for the year 1999.
- Jordan University for Science and Technology Law No. 31for the year 1996.
- Al-Balka Applied University Law No. 13 for the year 1997 and its amendments.
- The Regulations of Faculty Staff for each of the mentioned Universities.
- Regulation No. 23 for the year 1986 Certificates Equivalence Regulation.
- Instructions No.4 for the year 1986 The Rules and Basis for Non-Jordanian Certificates Equivalence.

Higher Education Law

This Law governs and regulates private and public universities.

As a general rule, the Secretariat- General of the Board of Higher Education undertakes to implement the Government's educational, cultural and academic policies (Article 8).

One of the objectives that Higher Education should fulfill is improving technology and developing it for serving the community (Article 3/F).

What is needed is the mechanism to implement and activate this Article for the benefit of the universities and the private sector. This requires the participation of the private sector, recognizing foreign higher education institutions that allow e-education, and improving the curricula in accordance with the needs of the community.

As far as private sector participation is concerned, the Board of Higher Education is formed of eleven people, part of which is, a president of the Board of Trustees of a private university, a president of a private university and five people of expertise (Article 4/A).

There is also the Board of Recognizing Higher Education Institutions; the Board is formed of 12 people, among which are 5 people of expertise (Article 6/A). The Board also has the power to form specialized committees to fulfill any duties and responsibilities assigned to them.

This all means that the door is open for private sector participation, whether in any of the mentioned Boards, or in any of the formed committees.

The tasks of the Board of Higher Education, include but are not limited to, forming the general policy for higher education, approving establishing higher education institutions in the Kingdom, approving fields of specialty at different levels of teaching, evaluating higher education in respect of quality and fulfilling the needs of the community, and laying out the policy of recognizing private and foreign higher education institutions (Article 5).

As for the Board of Recognizing Higher Education, the Board lays the basis for recognizing higher education institutions, evaluates the performance and accreditation of the curricula for the institutions in accordance with the policies determined by the Board to ensure that such institutions maintain the standards, conditions and the objectives specified, and amend such standards and conditions when need arises. The Board also has the authority to form specialized committees to recognize higher education institutions and for the equivalence of certificates (Article 7).

The above assures that it is within the powers of the Board to amend the curricula of the universities when need arises, and the power to recognize foreign and private higher education institutions, and to set the standards for certificates equivalence for e-education purposes.

The Private Universities Law

The Law governs and regulates private universities.

Any private university must aim for fulfilling the objectives of higher education as stipulated in the Higher Education Law (Article 3).

Yet, the approval of establishing a private university, licensing, conditions of appointment of the president of any private university and the faculty staff are all subject to the approval of the Board of Higher Education pursuant to the instructions issued by the Board (Article 7&8).

It is also worth mentioning that for the past three years the Higher Board of Education did not license any private university.

All the above means that although this Law regulates and governs private universities yet the policies of the Higher Education Board determine all matters relevant to such universities. This requires activating the role of the Board as stated above in the Higher Education Law Section, and to give the private universities the freedom to have their own laws and regulations.

Apart from the authorities assigned to the Board of Higher Education according to its Law, the Board in accordance with the Private Universities Law has the authority to approve cultural and technological co-operation agreements between private universities and specialized Arab, foreign, regional, and international universities, institutions and entities. This leaves the door open for recognizing what we called e-education, and other educational institutions, and any other needed programs. What is needed is the mechanism to push the Board to approve such agreements and reflect such agreements on the Law for recognizing e-education, and the equivalence of certificates of e-education holders.

The Universities of Jordan Law

The said Law regulates and governs universities which are organized by virtue of a special law, which means it is only applied on public universities (Names of the Universities is listed above).

According to the Law, the university is academically independent and hence sets the educational programs and curricula; the university also has the power to establish centers for research, education, training, consultations, services and hospitals (Articles 4&5&6).

The Board of the University is formed of at least 10 people, among which is three of the local community from different sectors to be recommended by the President and appointed by the Board of Trustees for one year.
This leaves the door open again for private sector participation.

The Board of the University has a number of responsibilities and functions parts of, which is, upgrading the level of education, training and research in the university to fulfill the national needs in accordance with the general policy of the university. The Board has also to undertake tightening the relations
between the university and the different institutions of both the public and private sector (Article 9).

Each faculty has a Board, the Board is formed of a number of people, two of them should be of expertise and not from the faculty. Such members are appointed by virtue of the decision of the president, which is based on the recommendation of the Board of Trustees (Article 14).

The faculty staff's categories are the following (Article 17/A):
- Professor.
- Associate Professor.
- Adjunct Professor.
- Teacher.

This means that a faculty member does not have to be a Ph.D. holder, lecturers may only hold masters degree, which is discussed hereunder.

Conditions of appointing faculty staff and lecturers are regulated in other Regulations.

Jordan University Law

All what is mentioned in the Universities of Jordan Law applies on the University of Jordan, and all the other universities listed above. The only issues that are more detailed in this Law are the following:

The President of the University has the authority to invite experts to attend the meetings of the Board of the University and the Council of Deans for a limited period of time and about certain issues (Article 13).

The Universities of Jordan Law and the University of Jordan Law are the basis for all the laws for the other public universities.

Faculty Staff Regulations

Regulation No. 25 for the year 1997 the Regulation of Faculty Staff of the University of Jordan will be the Regulation analyzed in this Section. The Regulations of the other universities are very similar to this Regulation.

According to this Regulation, the faculty staff falls within the following categories (Article 3):
- Professor.
- Associate Professor.
- Adjunct Professor.
- Teacher.

A faculty member may be given a sabbatical year by virtue of the decision of the Board upon the recommendation of the committee, and the Board of the Faculty (Article 5).

A teacher in a university should hold a master's degree or an equivalent thereof in the field of the specialty s/he will be appointed in. There should also be a working experience, after obtaining the masters degree, of at least three years in the field of research, or teaching in a university or an institution recognized by the university (Article 7).

As far as Professors, Associate Professors and Adjunct Professors they should all be Ph.D. holders. The work experience differs from one category to the other, and the number of publications required, apart from other conditions that each of the professors has to fulfill.

The responsibilities of the faculty staff include, inter alia, devotion for the educational obligation (Article 20).

The interpretation of this Article may be that faculty staff are not allowed to engage in any other commitment, if the interpretation is right, such Article should be amended to allow faculty staff to be engaged in any other commitment that might have a positive reflection on their experience and education in general.

A faculty member may not give lectures for other than the university s/he is appointed in unless given the approval of the president upon the recommendation of the dean of faculty. The number of hours given should not exceed 3 accredited hours weekly (Article 26).

A faculty member may also be given a sabbatical year, or any part thereof on two semesters for each six years spent as a faculty member in the university as a Jordanian, provided that s/he submits a plan of the research (S) to be prepared during the sabbatical. During this period, the faculty member may spend the leave in other universities or research centers in or outside the Kingdom with the approval of the President.
This means that a faculty member may leave the university to do further studying and research if s/he so desires (Article 30).

The Board of the University, upon the recommendation of the faculty board and the committee, may contract with full time lecturers to work in the university in accordance with the conditions deemed fit, provided that the lecturer is qualified for teaching the subjects that will be assigned to her/him (Article 34).

The President upon the recommendation of the dean of faculty may assign to part time lecturers to teach or train in the university for a semester or more. The President may also invite people from outside the university to give lectures or to undertake any academical task for a limited period of time, in accordance with the conditions he deems fit (Article 37).

This also an opportunity for the university – industry alliance, and what is needed is activating this provision.

Certificates Equivalence Regulation

The Certificates Equivalence Higher Committee is formed of a number of people, including three experts to be appointed by the Minister (Article 2).

The Higher Committee undertakes to lay out the basis, conditions and standards for the equivalence of non-Jordanian certificates, and issuing the decisions of equivalence for non-Jordanian certificates (Article 3).

This provision should be activated in order to include recognition of e-education, and to recognize universities or institutions that recognize e-education, which is the authority of the Board of Higher Education as stated above. The other solution may be is to actually adopt the e-education program in the universities in the Kingdom to have foreign and local students enrolling in such program.

Upon the recommendation of the Higher Committee the Minister may form a specialized committee or more formed from 3-5 specialized people (Article 4).

The Minister may also upon the recommendation of the Higher Committee ask for the opinion of expertise in any issue without having the right to vote on the issues discussed (Article 5).

Conditions and Basis for non- Jordanian Certificates Equivalence Instructions

According to the said Instructions, the academic year should not be less than 8 months of studying or the accredited hours.

Studying should be on reside and attend basis, meaning that a student should register in an academic institution and reside in the country of the said institution for the period required to finish his/her studying (Article 2).

This Article should be amended in order to allow e-education since e-education does not require residing and attending in the country of the institution where the student is registered.

The Committee takes the following into account in the equivalence of certificates (Article 4):

- The recognition of the authorized body in the country of the academic institution that issued the certificate in the said institution and the certificate thereof.
- The system of the educational institution and the conditions of applying and the duration of studying.
- The curricula and the exams system.
- The rights and the preference the holder of the said degree has in the country of the institution.

This Article should also be amended to take into account that e-education does not necessarily include exams.

The duration (residing) required for certificates equivalence differs from a degree to another, but in general it ranges from one to three years.

CONCLUSION

1. The Board of Higher Education has the power to involve the private sector in the universities.
2. The Board of Higher Education has the power to amend the curricula of the higher education institutions, recognize foreign and private higher education institutions, and sets the standards and conditions for the equivalence of certificates.
3. A Ph.D. is not a requirement for lecturers. Any university can contract with a lecturer by virtue of a contract, which includes all the conditions.
4. The Instructions stated above should be amended to include the conditions of e-education.